



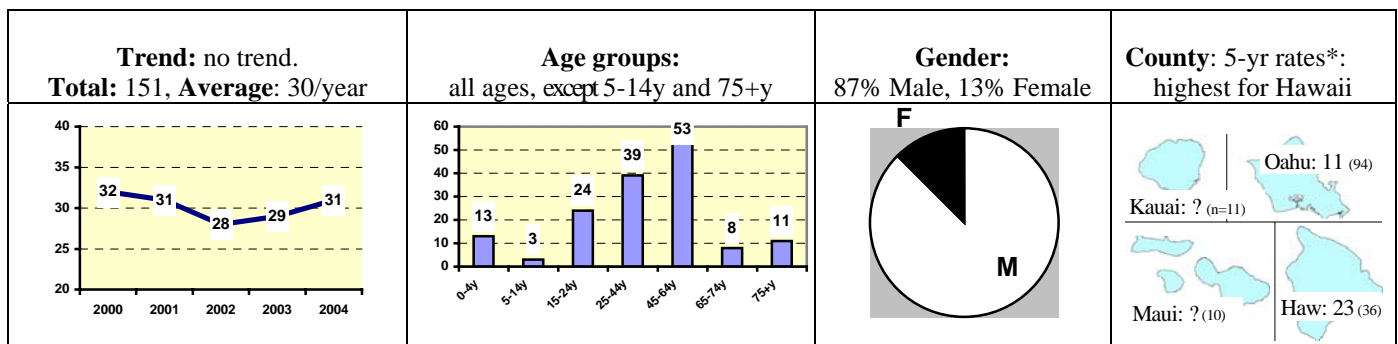
Drowning and Near-Drowning Injury Brief

Injury Prevention & Control Program

Overview of Drownings

Annual crude rate (1999-2002): 2.6 deaths per 100,000 residents (1.2/100,000 for rest of U.S.)
Hawaii state ranking (1999-2002): 2nd highest (AK highest: 4.0/100,000, NY lowest: 0.6/100,000)
Injury ranking (2000-2004): 5th leading cause of fatal injuries, 4th leading cause of unintentional

Hawaii had the 2nd highest resident drowning rate in the United States, a rate that was twice the average for the rest of the country. If drownings among non-residents were included, it is possible that Hawaii would have the highest rate, as half (50%) of the victims were non-residents. An average of 30 residents drown each year. If non-residents are included, however, the annual total doubles to 60 victims per year, with a generally increasing trend over the 2000-2004 period. The ages of the victims were very broadly distributed, with no obvious high-risk range. Most (87%) were males. Hawaii County had twice the drowning rate of Oahu (23.1/100,000 residents vs. 10.5/100,000). There were too few deaths to compute rates for Kauai (11 deaths) and Maui counties (10).



*Unadjusted rates per 100,000 residents over the 2000-2004 period. The number of deaths is shown in parentheses.

Contributing Factors

Over the 2000-2003 period, most (95 of 120, or 79%) of the resident victims drowned in the ocean or saltwater environments. Almost all (94%) were older than 18 years of age, and most (91%) were males. Unintentional immersions (e.g. boat crashes, being swept off rocks, etc.) led to 26% of the ocean drownings. The most common activities related to the drownings were swimming (16%), free diving (12%), and snorkeling (4%). (Victim activity was unknown for 31% of the cases.)

According to autopsy records (1996-2000), personal factors (unrelated to the ocean environment) probably or possibly contributed to almost half (44%) of the ocean drownings of residents off Oahu. Circulatory diseases, most commonly heart disease, caused or contributed to 16% of these drownings, 10% were alcohol related, 10% were drug related, and 5% were related to seizure disorders.

Seven (6%) of the 120 resident drownings over the 2000-2003 period were in swimming pools, including 2 victims who were 1 year-olds. There were also 8 drownings (5%) in freshwater environments, including 2 drownings in the Wailuku River near Hilo.

Near-Drownings

For every resident who drowned, there were approximately 2 near-drownings which required hospitalization, or about 60 per year, and another 504 residents are treated in emergency departments (ED) for near-drownings each year. (These estimates are 185 hospitalizations and 1,009 ED visits per year if non-resident patients are included.) The highest annual rates for near-drownings among residents were computed for 15 to 24 year-olds (8.2/10,000). Only 1% (6) of the patients were 65 years of age or older. Most (84%) of the patients were males.

Almost half (44%) of the swimming pool drowning and near-drownings that require an ambulance on Oahu are among children under 5 years of age. Of the 19 lifeguarded beaches on Oahu, Makapuu, Sandy, Waimea, and Hanauma were all in the top 5 for both the number and rate of rescues. Rescue rates differed by almost 20-fold across the beaches, and even more with certain beaches (e.g. Waimea) depending on the season, indicating risk of drowning differs greatly by beach and time of year. The characteristics of those rescued also varied by beach, for example, from mostly younger residents at Nanakuli, to mostly adult-aged non-residents at Hanauma Bay.